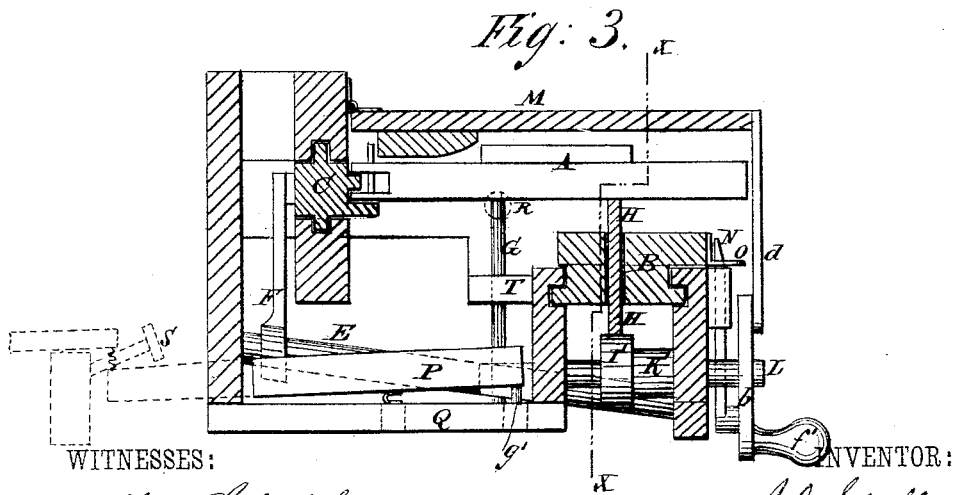
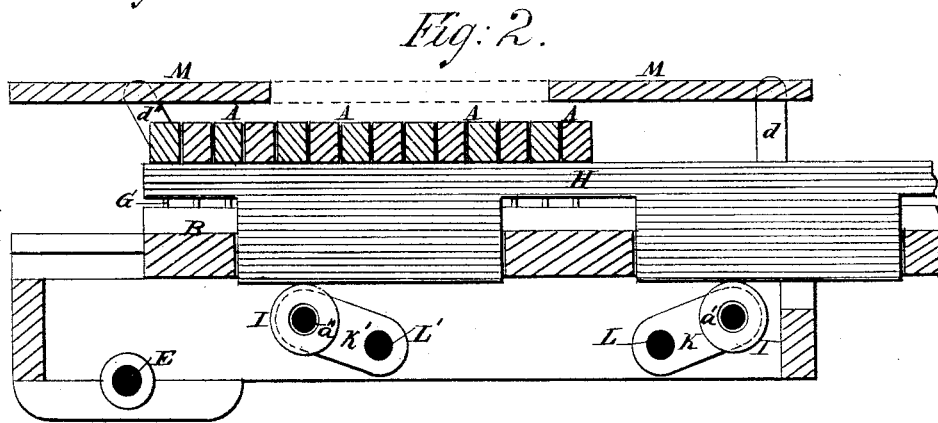
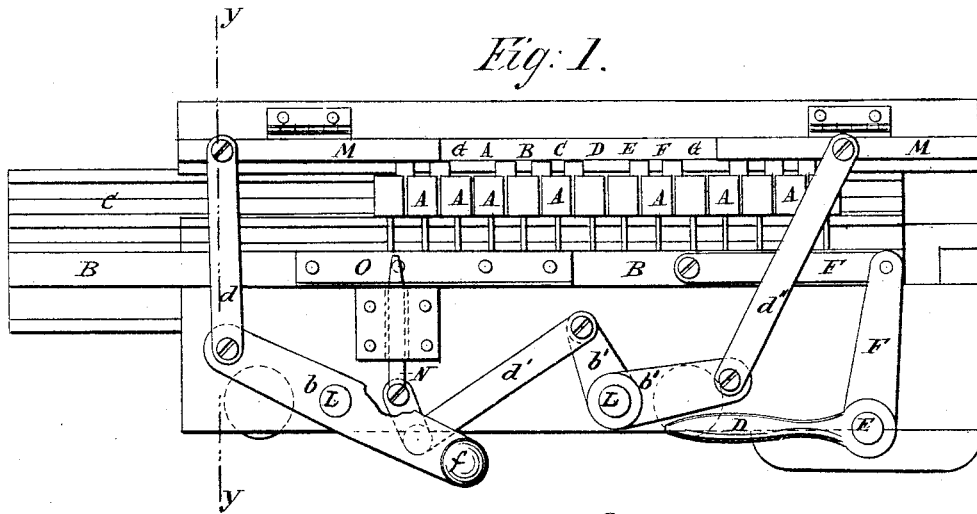


A. J. STAFFORD.
Transposing Key-Board.

No. 217,422.

Patented July 8, 1879.



Achilles Schehl.
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UNITED STATES PATENT OFFICE.

ASA J. STAFFORD, OF BRUSHTON, NEW YORK.

IMPROVEMENT IN TRANSPOSING KEY-BOARDS.

Specification forming part of Letters Patent No. **217,422**, dated July 8, 1879; application filed May 21, 1879.

To all whom it may concern:

Be it known that I, ASA J. STAFFORD, of Brushton, in the county of Franklin and State of New York, have invented a new and Improved Adjustable Finger-Board, of which the following is a specification.

Figure 1 is a front elevation of the device. Fig. 2 is a longitudinal sectional elevation on line *x x*, Fig. 3. Fig. 3 is a transverse sectional elevation on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a transposing key-board for pianos and organs, whereby the music can or may all be written and played in the key of C natural, and yet will sound in any one of the twelve keys to which the finger-board has been adjusted.

The front ends of the keys A A are guided and kept in proper relation to each other by pegs G, attached to the sliding table B, and the back ends are secured to the sliding rod C. Both table and rod slide in grooves, as shown, and both are moved synchronously by the same mechanism, which consists of the handle D and rod E, operating to move the bent arms or levers F F.

The keys are raised off the pegs G G by the direct contact of the narrow board H, the widest parts of which extend through the table B, and rest upon the rollers I I', that revolve on pins *a' a''*, projecting from arms K K', which are fastened on shafts L L', that project through the front of the structure. On the projecting ends of these shafts are secured the levers *b, b', and b''* and their connecting-rods *d, d', and d''*, all operated simultaneously by the crank-handle *f'*.

The connecting-rods *d* and *d''* are attached to the hinged cover or plate M, and elevate it from the keys as the keys are elevated by the strip H. As the crank *f'* is pressed down to raise the strip H and the plate M, it engages with the pin N and draws it down, so that it is disengaged from a hole in the plate O, which is secured to the sliding table B, so that the keys may be moved to the right or left by operating the handle D and its direct connections. In some cases the sliding rod C is made to slide between rollers placed above and below it.

While in organs my finger-board is to be used in place of the finger-board now in use, with pegs or tracker-pins leading to the reed-valves, in pianos the finger-board is to be used over the kind now in use, with pegs playing the lower keys, which are provided with holes bored part way through them, through their front ends, for the pegs to rest in, and the grooved timbers are to be fastened to the frame or table on which the lower keys are set by means of boards at the ends of this double key-board.

The key P represents a piano-key, set, as usual, on a pin, *g'*, that projects upward from the piece Q, or, preferably, from three main longitudinal pieces, (shown in dotted lines on Q,) and contact between the two sets of keys is established by means of simple pegs, as above stated, or by pegs carrying friction-wheels R, upon which the keys of my finger-board may rest. The hammer S (shown in the drawings, Fig. 3) is thrown up against the wires by the action of the key P.

In order to change the musical key, the upper set of keys, A, are moved to the right or left, as the case may be, to the required position, which is ascertained by observing middle C as it passes the letters C D E F G A B, &c., (shown on the cover M.) When middle C is opposite one of these letters, the instrument is in the key represented by the letter. Then, when the required position of the keys has been reached, both crank-handles are released, and the weight of the keys, falling on the narrow board H, causes the shafts L L' to turn and force the pin N into a hole in the plate O and hold the sliding table in place. The instrument is then ready to play on. The musical key can thus be changed, even during the delivery of almost any piece of music.

In organs, the grooved pieces in which the table B and rod C slide can be fastened at the ends to the inside of the case. The pegs G operate the same as in organs, and the holes in the board T, through which they pass, are slightly elongated in a direction parallel with the keys to afford sufficient freedom of movement to the pegs. In organs these pegs operate the reed-valves. In pianos they are sunk into the lower keys, that operate the hammers.

The upper keys are fastened in the same

manner as in organs, and the lower ones are fastened as in common pianos. Cloth, padding, &c., is used about the pegs and pins and other parts of the device, as is deemed advisable, for the purpose of decreasing friction and noise.

I do not confine myself to the precise location, as herein shown, of the levers, arms, &c., attached to the front of the device, for it is obvious that the objects for which they are intended can be secured by locating them, or some of them, on the ends or other parts of the device.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A transposing key-board for organs or pianos, consisting of the laterally-adjustable set of keys A, sliding table B, and sliding rod C, with the hinged and lettered cover or plate M, combined and arranged substantially as herein shown and described.

2. The combination of the set of keys A with the strip H, rollers I I', pins *a'* *a''*, arms K K', and shafts L L', substantially as herein shown and described.

3. The combination of the set of keys A, sliding table B, and sliding rod C with the handle D, rod E, and levers F, substantially as herein shown and described.

4. The combination of the set of keys A, strip H, and cover M with levers *b* *b'* *b''*, connecting-rods *d* *d'* *d''*, and crank-handle *f'*, substantially as herein shown and described.

5. The combination of the sliding table B with the perforated plate O and pin N, substantially as herein shown and described.

6. The combination of the set of keys A, sliding table B, sliding rod C, hinged and lettered cover M, strip H, rollers I I', arms K K', shafts L L', pegs G, pins *g'*, and cross-bar Q with key P, substantially as herein shown and described.

7. The hinged plate or cover M, set over the set of keys A, and provided with the letters C D E F G, &c., substantially as and for the purpose described.

ASA JOHN STAFFORD.

Witnesses:

GEORGE H. HUDSON,
PRESTON WILCOX.